THE CLIMATE FOR AGRICULTURE AT NAPPAN, 1914-1965

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SEASONAL OBSERVATIONS

Nappan has a modified continental climate.

Frequent combinations of continental and tropical storm fronts produce changeable weather conditions in all seasons of the year.

Winter – Winters are cold with frequent snowfalls.

Minimum winter temperatures control the adaptability of plant species.

Fruit trees, forage, and fall grain crops are often winterkilled.

Spring – Springs are late, cool, and cloudy.

The frequent northeast winds of spring produce cool conditions, which delay the planting season.

Late spring frosts are a hazard to tender annual crops.

Early planting is necessary for early harvest.

Summer – Growth of grains, hay, and pasture is unusually rapid during the long days of spring and early summer.

Moisture is nearly always ample in spring, but may be deficient in the midsummer season.

June, with a high weekly rainfall probability and moderate temperature, is a good month for growing forage.

Lack of hot sunny weather is likely to limit good haymaking conditions in June.

Forage harvested in June should be ensiled because the weather is unsuitable for making it into hay.

The northern area of Nova Scotia is quite free of fog.

Fall – Precipitation is greatest during the fall months.

THE CLIMATE FOR AGRICULTURE AT NAPPAN 1914-1965

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INTRODUCTION

The climate of an area is of special interest to farmers because it determines the kind of plants that can be grown.

Farmers do not just accept the climate passively. They constantly work to take advantage of favorable elements and to counteract unfavorable weather. Much of our modern agricultural success is a direct result of these efforts. By studying past weather records a fairly reliable indication of future trends can be plotted.

The Experimental Farm at Nappan, Nova Scotia, has records of daily weather variations for more than 50 years. These records have been collected in cooperation with the Canada Department of Transport and are reviewed here as a service to agricultural and other commercial interests in the area.

SOME HIGHLIGHTS

Northern Nova Scotia has a humid, temperate climate. The area lies in a region having prevailing westerly winds. Much of the weather that effects Nova Scotia originates in the interior of the continent. The prevailing drift of air from land to ocean results in very cold conditions during the winter. Extreme variations of winter temperature often occur when the prevailing westerly flow of continental air is interrupted by a flow of tropical air from a southerly direction along the Atlantic coast. Winter temperatures may rise or fall with differences of 35° to 50° F in 1 day, and not only low temperatures but occasionally high temperatures are a feature of the winter climate. The flow of continental air also helps to increase warmth in the area, and summer temperatures are in the 70's and low 80's.

Humidity is high and there is an abundance of moisture except during late July and August. Mean annual precipitation is 39 inches, of which 8 inches is snow. The average snowfall is 82 inches per year. Seasonal precipitation tends to increase from a low of 2.59 inches in May to a high of 4.10 inches in November. Winter precipitation may be either snow or rain, and accumulation of snow on the ground varies widely from year to year. Depth of midwinter snow on open fields often averages 1½ feet but seldom exceeds 2 feet. Melting snow during frequent mild periods of winter followed by severe freezing conditions causes ice, which is a serious threat to

winter survival of plants. The waters of Northumberland Strait considerably influence local weather conditions. In spring the persistence of floating ice and cold water lowers temperatures and delays the beginning of the growing season.

Temperature, moisture, and light are the three weather factors that have the most control over distribution of plant life and crop growth. Fifty-year averages of these weather variables indicate seasonal patterns of the past. Similar trends of seasonal weather variations can be expected in the future.

The Growing Season

Fields are bare of snow about April 15, and April 25 is the average date to begin field work such as fertilizing grassland and lawns. About May 1 grass begins to grow, and May 16 is the average date lawn grass is ready for cutting. May 11 is the average date to start harrowing grain fields. The earliest planting of spring grain has been April 28 and the latest June 9. Early plantings of spring grain are ready for harvest about August 15. The earliest harvest date has been August 6.

December 3 is the average date when work on the land ends because of snow or frost. The earliest date of fall freeze-up has been November 3 and the latest December 20.

Spring and Fall Frosts

The length of the growing season is closely related to the number of days between the last frost of spring and the first frost in fall. The average periods free of frost (32° F) and of killing frost (28° F) are 117 and 151 days (*see* Table 1).

Figure 1 shows the 52-year seasonal patterns of occurrence of 32° and 28° F temperatures in spring and fall. The diagram can be used to calculate the risk of frost damage to sensitive young plants at the beginning of the growing season and to maturing crops in the fall. Figure 1 shows that on June 6 plants in the field will have a 10 percent chance of being subjected to an air temperature of 32° F, whereas on May 24 the chances are 50 percent that a frost will occur. Therefore, May 24 is the average date of the last spring frost.

Frost-sensitive crops must be harvested before they are subjected to freezing conditions. In the last 50 years the earliest fall date on which an air temperature of 32° F was recorded is August 27, and 1 year in 10 it is likely to occur on or before September 6. By September 18 the chances are equal that field temperatures will have dropped to 32° F or lower. When we know the temperature that a crop can tolerate and the length of its growing season, we can decide whether the crop is suitable for the location in

Table 1. Climatic summary. Averages for 52 years, 1914-1965, at Nappan, Nova Scotia

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
Temperatures (° F)													
Monthly average	18	18	27	38	49	58	64	63	56	47	36	23	
Highest on record	57	59	66	79	84	89	90	94	90	80	70	63	
Lowest on record	−34	−35	−21	−6	20	26	33	32	25	10	−2	−24	
Sunshine (hours)													
Monthly average	90	104	123	144	184	199	227	215	160	130	80	75	
Daily average	2.9	3.8	4.0	4.9	5.9	6.7	7.3	6.9	5.4	4.2	2.7	2.4	
Precipitation (inches)													Total
Total	3.64	3.16	2.86	2.87	2.59	2.97	2.70	3.30	3.43	3.68	4.10	3.73	39.03
Snowfall	20	19	14	7	T					T	5	17	82

Frost-free period (days above 32° F)

Last in spring	Average length of season	First in fall
Average date: May 24	117 days	Average date: Sept. 18
Latest date: June 20		Earliest date: Aug. 27

Crop growing season (days above 28° F)

Av. last 28° F in spring: May 10	151 days	Av. first 28° F in fall: Oct. 8

Growing degree-days (42° base)	Total snowfall extremes (Oct.-April)
May 1 to Sept. 30: 2540	Greatest snowfall 128 inches 1951-1952
Apr. 1 to Oct. 31: 2671	Least snowfall 33 inches 1952-1953

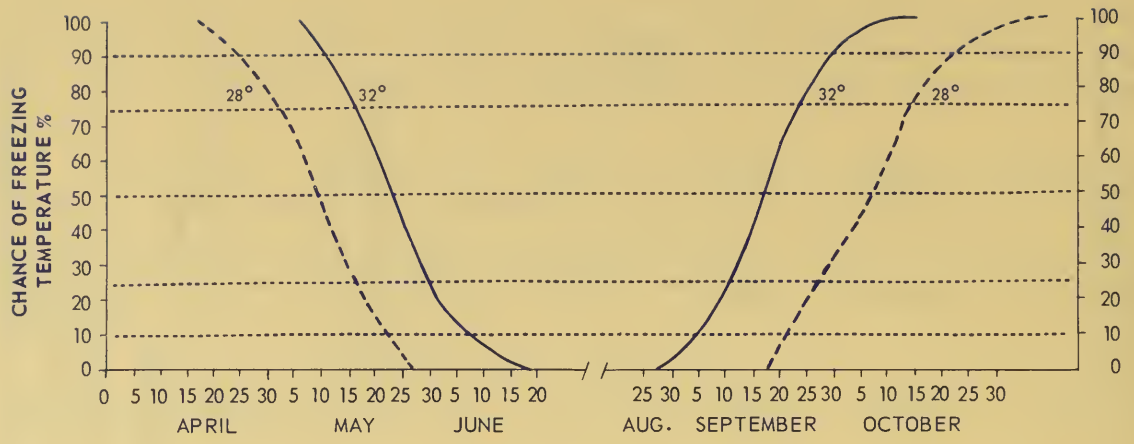

Figure 1. Chances of last frost (32° F) and of killing frost (28° F) on or after any date in spring and of first frost and killing frost on or before any date in fall, 52 years average records, 1914-1965.

which it is to be grown. Also, we can decide if it is profitable to grow certain crops when the risk of loss because of frost damage is, for example, 1 year in 5 or maybe 1 in 10.

Temperature

The coldest days of the year are during the last of January and the first of February (Table 2). Minimum temperatures have dropped below zero 36 percent of the time during these cold weeks but there are also many occasions on which very mild conditions occur. The result is an average minimum well above the zero mark. The weekly average temperature is 14.5° F (Figure 2). Weekly occurrence of the coldest winter days ever recorded are also indicated in Figure 2. Extreme minimums below −30° F have been recorded three times and −35° F is the lowest temperature recorded over the 52-year period.

Temperatures rise steadily from February onward. The average of minimum temperatures is above freezing after May 1. The warmest temperatures of summer occur during the 6-week interval from early July to mid-August (Table 2). The highest average daily temperature of the year is 66° F and occurs on July 24 and 25. The highest average weekly temperature is 65.5° F in the last week of July. The 2 weeks before and 3 weeks after this period have identical average temperatures of 64.5° F, just one degree below the highest for the summer. A maximum temperature of 90° F or higher has been recorded four times, the highest being 95° F (Figure 2). Daily temperatures above 70° F occur more than 80 percent of the time during this warm season of the year. In the fall average minimum temperatures do not drop below the freezing point until the first days of November (Figure 2).

Table 2. Average daily temperature, ° F, at Nappan, Nova Scotia, 1914-1965

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	19	14	23	33	43	55	63	64	62	51	43	31
2	19	14	23	34	43	55	63	64	61	49	41	27
3	19	14	23	34	45	55	63	64	61	50	41	26
4	22	16	23	34	45	56	62	64	60	50	42	27
5	20	16	24	35	46	57	62	64	60	51	41	28
6	22	15	25	36	46	56	63	65	59	51	41	30
7	23	18	24	36	47	55	63	64	60	50	39	30
8	22	19	24	36	47	55	64	65	59	51	40	29
9	20	17	25	36	47	55	64	65	57	50	39	28
10	18	17	24	36	47	56	64	64	58	49	39	28
11	18	16	25	36	47	56	65	64	58	48	36	24
12	18	18	26	37	47	58	65	65	58	47	36	26
13	19	16	25	38	48	58	65	65	57	48	36	26
14	18	17	25	37	47	58	65	64	56	47	36	23
15	18	19	26	38	48	58	65	65	56	46	37	21
16	20	19	27	37	49	58	64	65	57	46	36	21
17	19	18	29	38	50	58	65	64	56	47	36	21
18	17	20	27	39	50	58	65	64	55	46	35	22
19	17	20	27	40	50	58	65	63	54	45	35	21
20	18	19	28	40	50	59	65	63	55	46	35	21
21	18	18	29	40	50	59	64	62	56	45	35	21
22	17	18	30	40	51	60	65	63	56	44	36	22
23	17	19	29	41	51	61	65	62	56	45	35	21
24	17	21	30	41	52	61	66	62	55	45	34	21
25	18	20	31	40	52	61	66	62	53	44	34	21
26	18	21	32	41	53	61	65	62	53	43	31	20
27	15	22	32	42	52	62	65	62	52	43	31	20
28	15	22	32	42	52	62	65	62	53	43	30	19
29	14	19	31	42	52	62	65	62	52	43	30	20
30	16		32	42	52	63	65	62	51	42	32	20
31	13		34		53		65	61		42		18
Av.	18	18	27	38	49	58	64	63	57	47	36	23

The differences between daily extremes are much greater in winter than in summer. The extreme high and low temperatures for February, the coldest month, are 56° F and -34° F, a difference of 90 degrees. The range of summer temperatures is from a high of 90° F to a low of 33° F, a difference of only 57 degrees. The last below-zero temperatures of winter are at

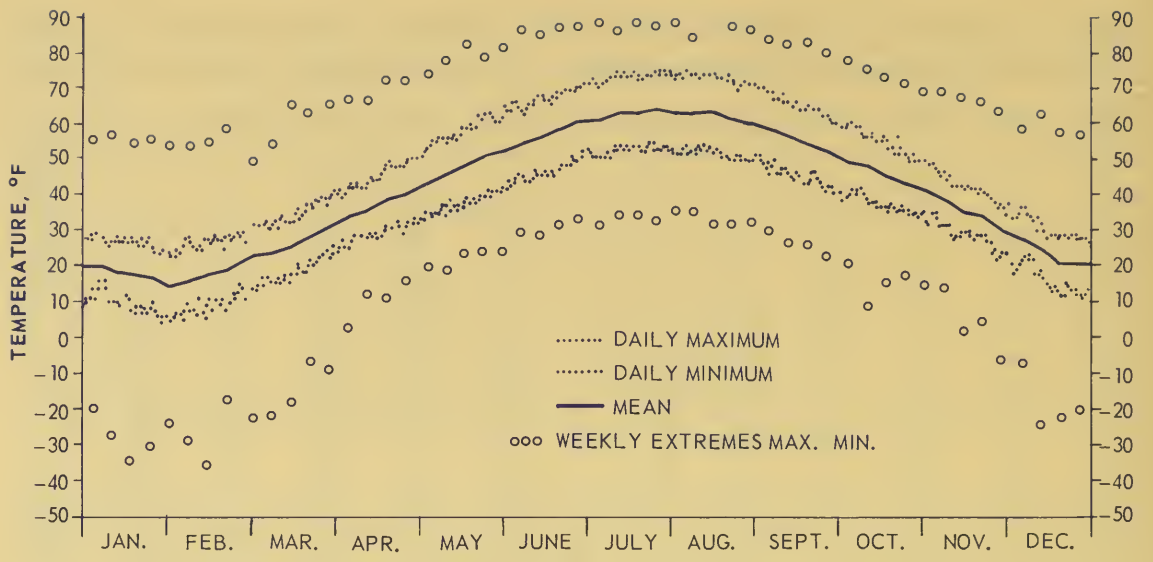

Figure 2. Average daily maximum and daily minimum temperatures, weekly mean temperature, and weekly extremes of maximum and minimum temperatures, 52 years 1914-1965.

the end of March and the first in the fall are at the end of November.

Average daily temperatures are presented in Table 2.

Degree-days for Growth

The classification of climate according to heat units or degree-days is used by farmers whose crops are vulnerable to fall frost or a restricted growing season. The degree-day concept is based on knowledge that there is a base temperature below which any particular crop is not expected to grow. For example, hardy crops such as peas have a base temperature of about 42° F; for crops such as corn and beans that need more heat the base is about 50° F. To calculate degree-days subtract the base temperature from the average daily temperature. Using base 42° F, a day with an average temperature of 43° F has 1 degree-day, a day with a 44° F average temperature has 2 degree-days, and so on. Degree-days for successive days are added together to give accumulated degree-days for the period under consideration.

The average weekly degree-days at Nappan for the growing season May to September are shown in Table 3 for bases 36°, 40°, 42°, and 50° F. These temperatures are considered to be in the minimum growth range for hardy, average, and tender crops. Degree-days accumulate slowly during May, and for base 42° F there are less than 100 degree-days per week until after June 10. Maximum accumulation of 163 degree-days per week occurs during the last week of July and drops below 100 again after September 15.

Table 3. Average degree-days by weeks for the growing season May to September inclusive, at Nappan, Nova Scotia, 1914-1965

Week beginning	Base temperature, ^{o} F			
	36	40	42	50
May 1	43	42	34	11
May 7	63	55	45	16
May 14	80	68	56	22
May 21	92	84	72	32
May 28	111	95	82	38
June 4	122	111	98	49
June 11	138	124	110	60
June 18	152	135	121	69
June 25	163	154	140	85
July 2	182	159	146	91
July 9	187	174	159	104
July 16	201	172	158	103
July 23	201	177	163	107
July 30	205	170	157	102
August 6	198	173	158	103
August 13	200	169	156	101
August 20	198	156	142	88
August 27	184	152	138	84
September 3	179	136	122	71
September 10	164	120	107	98
September 17	148	109	96	48
September 24	136	92	80	37
Total	3347	2827	2540	1519

Many crops are now classified according to specific degree-day requirements for satisfactory growth. When we know the average degree-day values that have been reported for a particular region or area, then crop species, varieties, and strains that suit local climatic conditions can be chosen. Using this method of selection we do not expect crops that need more than about 2500 degree-days (42^{o} F base) to do well in this area.

Heating Degree-days

Heating degree-days are calculated in units that represent degrees of declination from a given point (usually 65°) in the mean outdoor temperature for 1 day. This information is often used to measure heating fuel requirements for rural and urban buildings and is of practical value to architects, heating engineers, industrial contractors, and agricultural engineers.

The average daily heating degree-days (below base 65° F) are given in Table 4.

Precipitation

Heat and light are of no value to plants if moisture is not present. Precipitation, that is, falling rain, snow, and sleet, is the weather factor in which farmers are most interested. Rainfall departs from normal or average daily or seasonal patterns in complicated ways and with greater frequency than temperature. Therefore, farm programs must often be modified and adjusted because of variations brought about by seasonal weather conditions. Total precipitation including rain and melted snow is about 39 inches annually. Of this total, 31 inches is rain and the remaining 8 inches is from the water content of snow, which averages 82 inches per year (Table 1). Average weekly precipitation over the year is extremely variable (Figure 3) and fluctuations within periods of a few weeks are characteristic of almost every month.

The average daily precipitation values and average weekly snowfall are given in Tables 5 and 6. The smallest weekly precipitation, 0.41 inches, is in the week of March 19 to 25 (Table 5 and Figure 3). Slightly wetter

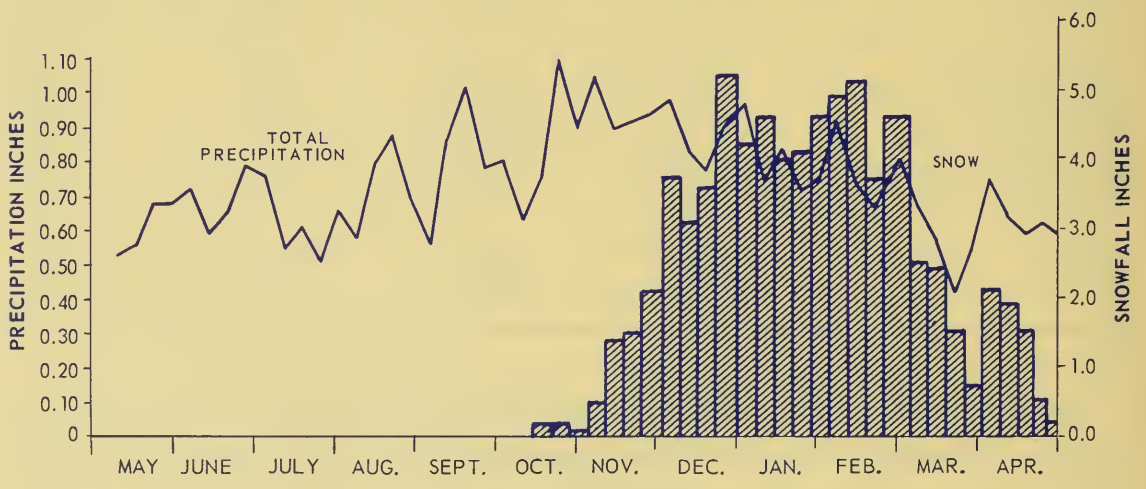

Figure 3. Inches of precipitation for 12 months, May to April, and inches of snowfall for the winter season, October to April, 52 years averages 1914-1965.

Table 4. Daily heating degree-days below 65° F, at Nappan, Nova Scotia, 1914-1965

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	46	51	42	32	22	10	2	1	3	14	22	34
2	46	51	42	31	22	10	2	1	4	16	24	38
3	46	51	42	31	20	10	2	1	4	15	24	39
4	43	49	42	31	20	9	3	1	5	15	23	38
5	45	49	41	30	19	8	3	1	5	14	24	37
6	43	50	40	29	19	9	2	0	6	14	24	35
7	42	47	41	29	18	10	2	1	5	15	26	35
8	43	46	41	29	18	10	1	0	6	14	25	36
9	45	48	40	29	18	10	1	0	8	15	26	37
10	47	48	41	29	18	9	1	1	7	16	26	37
11	47	49	40	29	18	9	0	1	7	17	29	42
12	47	47	39	28	18	7	0	0	7	18	29	39
13	46	49	40	27	17	7	0	0	8	17	29	39
14	47	48	40	28	18	7	0	1	9	18	29	42
15	47	46	39	27	17	7	0	0	9	19	28	44
16	45	46	38	28	16	7	1	0	8	19	29	44
17	46	47	36	27	15	7	0	1	9	18	29	44
18	48	45	38	26	15	7	0	1	10	19	30	43
19	48	45	38	25	15	7	0	2	11	20	30	44
20	47	46	37	25	15	6	0	2	10	19	30	44
21	47	47	36	25	15	6	1	3	9	20	30	44
22	48	47	35	25	14	5	0	2	9	21	29	43
23	48	46	36	24	14	4	0	3	9	20	30	44
24	48	44	35	24	13	4		3	10	20	31	44
25	47	45	34	25	13	4		3	12	21	31	44
26	47	44	33	24	12	4	0	3	12	22	34	45
27	50	43	33	23	13	3	0	3	13	22	34	45
28	50	43	33	23	13	3	0	3	12	22	35	46
29	51	46	34	23	13	3	0	3	13	22	35	45
30	49		33	23	13	2	0	3	14	23	33	45
31	52		31		12		0	4		23		47
Av.	46.8	47.0	37.7	26.2	16.2	6.8	0.6	1.5	8.5	18.3	28.6	41.4

conditions are shown in Figure 3 for the first week of April when the average is 0.74 inches, but smaller amounts occur again in the last weeks of April and the early part of May when there is just slightly over 0.50 inches per week. Increasing amounts of rain fall through the latter part of May and

Table 5. Average daily precipitation, inches, at Nappan, Nova Scotia, 1914-1965

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	0.11	0.11	0.10	0.16	0.08	0.08	0.12	0.15	0.10	0.18	0.18	0.15
2	0.11	0.08	0.08	0.17	0.06	0.15	0.09	0.11	0.10	0.08	0.11	0.09
3	0.11	0.09	0.15	0.04	0.10	0.10	0.12	0.09	0.08	0.10	0.13	0.10
4	0.18	0.10	0.08	0.12	0.12	0.09	0.13	0.11	0.12	0.07	0.13	0.10
5	0.12	0.09	0.07	0.10	0.05	0.09	0.10	0.11	0.02	0.07	0.20	0.15
6	0.15	0.14	0.15	0.12	0.05	0.13	0.11	0.04	0.05	0.14	0.21	0.18
7	0.18	0.13	0.09	0.09	0.05	0.13	0.07	0.06	0.14	0.17	0.14	0.17
8	0.05	0.17	0.14	0.10	0.06	0.06	0.15	0.14	0.09	0.13	0.09	0.07
9	0.07	0.16	0.15	0.16	0.08	0.12	0.05	0.07	0.06	0.11	0.12	0.19
10	0.19	0.09	0.09	0.09	0.11	0.09	0.06	0.09	0.07	0.13	0.13	0.18
11	0.10	0.12	0.08	0.07	0.06	0.06	0.06	0.07	0.10	0.09	0.15	0.08
12	0.14	0.07	0.07	0.09	0.08	0.09	0.09	0.10	0.06	0.05	0.07	0.20
13	0.10	0.10	0.14	0.06	0.08	0.10	0.07	0.16	0.15	0.05	0.14	0.09
14	0.09	0.11	0.12	0.09	0.08	0.07	0.10	0.10	0.17	0.07	0.16	0.09
15	0.17	0.16	0.06	0.07	0.11	0.12	0.12	0.15	0.15	0.06	0.10	0.10
16	0.10	0.09	0.09	0.12	0.06	0.09	0.10	0.06	0.16	0.06	0.15	0.09
17	0.11	0.12	0.07	0.10	0.07	0.06	0.02	0.10	0.08	0.13	0.13	0.11
18	0.06	0.08	0.12	0.05	0.08	0.11	0.10	0.09	0.17	0.13	0.13	0.20
19	0.15	0.08	0.09	0.07	0.08	0.08	0.09	0.13	0.14	0.07	0.12	0.08
20	0.16	0.13	0.05	0.08	0.08	0.14	0.10	0.11	0.14	0.20	0.18	0.10
21	0.09	0.06	0.06	0.09	0.08	0.07	0.12	0.05	0.14	0.10	0.09	0.13
22	0.12	0.05	0.09	0.07	0.06	0.10	0.08	0.07	0.24	0.17	0.10	0.06
23	0.11	0.14	0.10	0.06	0.10	0.09	0.12	0.07	0.13	0.09	0.13	0.09
24	0.11	0.10	0.07	0.10	0.11	0.07	0.09	0.17	0.09	0.23	0.17	0.14
25	0.10	0.10	0.05	0.06	0.09	0.10	0.05	0.22	0.15	0.24	0.12	0.09
26	0.07	0.18	0.06	0.11	0.08	0.13	0.01	0.18	0.10	0.20	0.11	0.15
27	0.10	0.14	0.06	0.10	0.16	0.06	0.06	0.10	0.14	0.08	0.18	0.08
28	0.11	0.12	0.05	0.09	0.12	0.11	0.10	0.10	0.15	0.19	0.13	0.07
29	0.13	0.05	0.09	0.10	0.09	0.16	0.08	0.13	0.08	0.12	0.15	0.19
30	0.12		0.10	0.10	0.08	0.08	0.07	0.09	0.07	0.11	0.13	0.12
31	0.10		0.10		0.07		0.03	0.07		0.12		0.06
Av.	0.11	0.11	0.09	0.09	0.08	0.09	0.08	0.10	0.11	0.11	0.13	0.11

in June, and the last week of June and the first week of July have averaged 0.80 and 0.76 inches, these being the wettest weeks of the late spring and early summer season. Rainfall decreases during the last weeks of July and early August, but the third week of August is again quite wet with 0.88

Table 6. Average weekly snowfall and percentage of times the total weekly snowfall exceeded 0.5 to 20.0 inches, at Nappan, Nova Scotia, 1914-1965

Week beginning	Average snowfall, inches	Percentage of times weekly snowfall exceeded						
		0.5	1.0	1.5	2.0	5.0	10.0	20.0
		inches						
Oct. 15	0.2	6	6	4	2			
22	0.2	8	6	6	4			
29	0.1	2	2	2	2	0		
Nov. 5	0.5	14	12	12	8	4	0	
12	1.4	29	24	24	24	10	2	
19	1.5	45	41	37	22	8	0	
26	2.1	57	47	39	33	12	2	0
Dec. 3	3.7	61	55	49	41	27	8	4
10	3.1	71	61	61	57	18	6	0
17	3.6	61	57	55	49	31	10	0
24	5.2	76	71	71	65	41	20	2
Jan. 1	4.2	67	63	57	47	33	8	2
8	4.6	69	55	53	51	35	16	0
15	4.0	67	63	61	53	27	12	2
22	4.1	78	71	65	59	22	10	0
29	4.6	80	76	76	69	39	6	0
Feb. 5	4.9	80	78	76	63	35	12	0
12	5.1	80	73	71	69	39	18	0
19	3.7	67	59	57	53	33	8	0
26	4.6	73	67	61	59	45	12	0
March 5	2.5	59	49	49	39	33	6	2
12	2.4	57	47	41	39	27	10	0
19	1.5	57	55	51	45	16	2	
26	0.7	49	41	33	27	6	0	
April 2	2.1	45	41	33	29	16	4	
9	1.9	43	35	33	24	14	2	
16	1.5	31	27	24	20	12	4	
23	0.5	20	12	12	4	2	0	
30	0.1	4	4	2	0	0		
May 7	0.0	2	0	0	0			
14	0.1	2	2	2	2			

inches of rain. September and October have the weeks of greatest rainfall, the highest being 1.19 inches for the last week of October (Figure 3).

Snow can be expected after October 15, but the greatest amount of snowfall is in December, January, and February. The heaviest average weekly snowfall is greater than 5 inches and occurs in the last week of December (Figure 3). The greatest winter snowfall was 128 inches in 1951-1952 and the least recorded was 33 inches in the winter of 1952-1953.

Average daily precipitation values for the entire year and weekly snowfall for the winter season are given in Tables 5 and 6.

The total amount and seasonal distribution of precipitation is important. The peaks of rainfall for the first week of July and again in mid-August and September are related to the frequency of heavy rains in these periods. Rainfall of 1.50 inches or more per week occurs 18 percent of the time in the peak periods of July and August and 22 percent of the time in the peak period of September. Rainfall greater than 2 inches per week is not common but has occurred 10 percent of the time in the wettest interval of June-July, 14 percent of the time in mid-August, and 16 percent of the time in the third week of September (Table 7).

Sunshine

Sunlight supplies the energy needed for growth of plants and animals. The physical conditions that regulate seasonal weather and climate depend upon the amount and distribution of sunlight.

Average daily hours of sunshine vary in a fairly regular pattern from the short days of winter to the long days of summer (Figure 4). Daily bright sun in December may be as little as 2 hours, while in July the average of

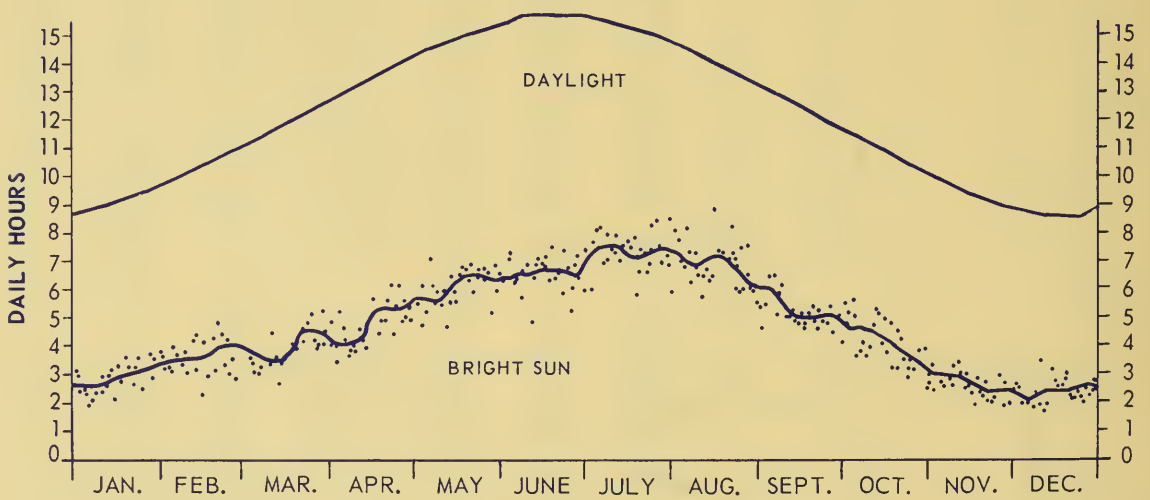

Figure 4. Average hours of bright sun and hours of daylight, 52 years 1914-1965.

Table 7. Percentage of times rainfall was equal to or greater than 0.02 to 2.00 inches for 22 weeks of the growing season, April to September, at Nappan, Nova Scotia, 1914-1965

	Rainfall, inches							
Week beginning	0.02	0.05	0.10	0.20	0.50	1.00	1.50	2.00
April 30	88	86	80	63	43	20	10	6
May 7	96	90	88	67	41	16	2	0
May 14	88	86	82	69	41	18	12	4
May 21	90	90	90	76	55	27	10	0
May 28	96	92	88	71	53	27	10	4
June 4	94	92	88	80	55	31	8	0
June 11	88	86	84	73	39	18	12	4
June 18	92	92	86	76	51	27	10	0
June 25	86	84	80	69	55	29	16	10
July 2	86	82	73	65	51	29	18	10
July 9	82	76	73	63	41	18	6	4
July 16	92	88	78	78	47	22	6	2
July 23	88	78	76	61	35	18	4	2
July 30	90	86	84	71	43	29	10	4
August 6	86	82	73	59	45	16	8	4
August 13	88	84	76	65	45	35	18	10
August 20	84	82	80	76	53	33	16	14
August 27	90	86	82	71	51	24	12	4
September 3	82	82	71	65	39	18	10	8
September 10	94	92	88	82	55	31	16	12
September 17	90	86	84	82	61	37	22	16
September 24	90	84	80	69	55	31	18	8

bright sunlight is 7.6 hours per day. This represents only 23 percent of possible sun in the first week of December but 51 percent of possible sun for the last week of July.

May and June have from 40 to 44 percent of total possible bright sunlight, but there is a noticeable drop-off in the last week of June when there is only 41 percent of bright sunlight. July is the sunniest month of the year, with bright sunlight about 50 percent of the time and a maximum

of 7.6 hours daily in the last week. Daily hours of sunlight decrease from mid-August to fall and winter.

The average daily hours of bright sunshine are given in Table 8.

Table 8. Average daily hours of sunshine at Nappan, Nova Scotia, 1914-1965

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	3.1	3.7	3.9	4.1	5.8	6.4	7.5	6.0	5.5	4.2	2.8	2.5
2	2.9	3.3	3.9	4.1	5.7	6.5	6.1	8.2	4.8	5.6	3.4	2.7
3	2.4	3.3	3.6	3.5	4.8	7.2	7.8	7.9	5.7	4.9	2.5	2.6
4	2.4	3.2	3.4	5.3	6.2	7.5	7.5	7.1	6.4	5.3	3.0	2.0
5	2.3	4.0	3.1	4.7	5.3	6.3	8.2	6.9	6.6	5.7	2.8	2.3
6	2.0	3.8	3.1	4.3	7.2	6.4	8.3	8.3	6.6	3.8	2.6	2.0
7	2.1	3.5	3.3	3.8	6.2	5.8	7.0	7.4	5.2	3.9	3.0	2.2
8	2.7	3.4	3.6	3.9	5.6	6.8	7.1	6.4	5.9	4.2	2.9	1.8
9	2.4	3.8	3.5	4.1	6.0	7.0	8.1	7.4	6.2	3.7	2.7	2.4
10	2.4	3.1	3.4	3.9	5.5	6.6	7.5	6.6	5.1	4.7	3.4	1.9
11	2.9	3.6	4.5	4.7	6.0	5.0	7.4	5.8	5.4	4.1	3.5	3.5
12	2.6	4.2	3.5	4.3	4.8	6.5	8.0	6.6	5.1	4.8	3.1	1.8
13	2.9	4.4	2.7	4.0	5.6	7.0	7.1	6.8	5.3	5.4	3.1	2.0
14	3.2	3.2	3.4	4.7	6.5	7.2	7.7	6.5	5.0	5.2	2.6	2.4
15	2.1	2.3	3.6	4.5	6.0	7.0	7.3	6.6	4.9	4.2	2.7	3.2
16	3.3	4.1	3.6	5.7	5.6	6.9	7.8	8.9	5.2	5.0	2.4	2.8
17	2.8	3.0	3.9	5.4	6.6	7.3	7.6	7.4	4.7	3.9	2.0	2.6
18	2.8	3.8	4.1	4.5	6.9	6.4	7.9	7.2	4.9	4.9	2.9	2.6
19	3.6	4.3	4.1	5.0	6.8	7.6	5.9	7.4	5.3	3.3	2.4	2.8
20	3.0	3.2	4.0	5.0	6.4	6.5	6.7	7.2	5.5	3.3	2.3	3.0
21	3.3	4.8	4.6	5.8	7.0	6.7	7.5	7.2	5.0	4.6	2.8	2.3
22	2.7	4.5	4.2	6.3	6.0	6.0	7.4	8.3	4.7	4.3	2.1	2.2
23	3.4	3.3	4.6	4.5	6.6	7.5	6.7	7.4	5.4	3.6	3.1	2.2
24	3.6	4.3	4.9	5.5	6.8	6.9	7.0	6.1	5.0	3.0	2.2	2.4
25	2.5	3.1	5.2	6.2	6.5	5.4	8.4	6.0	4.9	3.3	2.5	2.3
26	3.2	3.6	4.3	4.9	6.8	5.7	8.5	6.1	5.5	3.3	3.0	2.0
27	3.3	2.9	4.0	5.7	6.7	7.0	7.7	7.7	5.5	3.6	1.9	2.5
28	3.7	4.3	4.1	5.1	5.3	7.3	7.1	6.6	4.6	3.9	2.7	2.3
29	2.9	5.6	5.3	5.4	6.9	6.9	7.3	6.3	5.1	3.4	2.4	2.4
30	3.6		4.6	5.0	6.0	6.1	7.0	6.1	5.2	4.0	2.0	2.5
31	3.8		4.9		6.6		8.6	5.6		2.6		2.7
Av.	2.9	3.6	3.9	4.7	6.1	6.6	7.4	6.9	5.3	4.1	2.6	2.4

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